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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/719,606	Applicant(s) CHONG ET AL.	
	Examiner Philip Guyton	Art Unit 2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 21-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 21-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-15 and 21-26 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent App. No. 2001/0055172 to Yip et al. (hereinafter Yip).

With respect to claim 1, Yip discloses a method of managing spatially related defects on a data storage media surface in a data storage device (paragraph 8 – “*The present invention...scratches on the disk*”) comprising:

identifying defect locations on the media surface (paragraph 19 – “*To pack more data...in a buffer memory*”);

determining whether the location of an identified defect is within a predetermined window defined relative to another identified defect location on the media surface (paragraph 22 – “*To do this, the defect entries...grouped into one cluster*”);

if the location is within the predetermined window, characterizing the defects in the window as a scratch (figure 2 and paragraph 22 – adjacent defects grouped together as cluster); and

generating a scratch tracking table having a start index and an end index for each scratch (Table 2 and paragraph 24 – *“The pattern is represented...in Table 2 below”*).

With respect to claim 2, Yip discloses padding the scratch (paragraph 34 – *“An alternative embodiment...shown in Table 8”*).

With respect to claim 3, Yip discloses wherein the characterizing operation comprises:

assigning a unique scratch index to the scratch (Table 2 – parameters are unique to this scratch); and

associating each defect within the window with the unique scratch index (Table 1 becomes Table 2 – each defect in Table 1 associated with scratch index represented by Table 2).

With respect to claim 4, Yip discloses generating a scratch index table associating each identified defect with a scratch index (paragraph 25 – *“The set of...the first defect table”*).

With respect to claim 5, Yip discloses wherein the determining operation comprises:

loading an identified defect location in a register (paragraph 23 – *“For each cluster...the largest address”*); and

comparing the defect location and a last identified defect location of each identified scratch against predetermined window criteria (paragraphs 32-33 – *“FIG. 5 shows...shown in Table 7”*).

With respect to claim 7, Yip discloses a method comprising:

- identifying defect locations on a data storage media (paragraph 19 – *“To pack more data...in a buffer memory”*);
- tabulating the identified defects in a defect list (Table 1);
- determining whether one or more defect locations lies within a predetermined window defined relative to another defect location (paragraph 22 – *“To do this, the defect entries...grouped into one cluster”*);
- assigning a unique scratch index to each defect location within the predetermined window (Table 2 – parameters are unique to this scratch);
- generating a scratch tracking table listing a start index for a first defect location in the window and an end index for a last defect location in the window for each scratch index assigned (Table 2 and paragraph 24 – *“The pattern is represented...in Table 2 below”*); and
- generating a scratch index table associating a scratch index with each defect location (Table 2 and paragraph 25 – *“The set of...the first defect table”*).

With respect to claim 6, Yip discloses wherein the predetermined window criteria comprises a number of cylinders and a number of bytes (Table 2 – parameters include cylinder and sector, wherein the scratch, angle and span parameters represent number of bytes).

With respect to claim 8, Yip discloses using the scratch tracking table and the scratch index table to determine whether a read or write command is to be redirected to another data storage media location (paragraph 3 – *“Upon power-on of the...disc drive*

operations” and paragraph 8 – *“This second defect table will be stored in the buffer and used by the firmware to skip over defects during operation”*).

With respect to claim 9, Yip discloses:

retrieving an entry in the scratch tracking-table having a first scratch index ();
searching the scratch index table for defect locations associated with the first scratch index;

padding the scratch; and

repeating the retrieving, searching and padding operations for a next scratch index (paragraph 34 – *“An alternative...shown in Table 8” and Table 7 and Table 8*).

With respect to claim 10, it is deemed inherent to the invention of Yip wherein the repeating operation includes a query operation asking whether an end of the scratch tracking table has been reached prior to retrieving the next scratch index, as it would not continue the retrieving, searching, and padding if there were no other scratches to be padded.

With respect to claim 11, Yip discloses a system for managing scratches on a data storage media in a data storage device (paragraph 8 – *“The present invention...scratches on the disk”*) comprising:

a controller adapted to control access by a host to and from the data storage media (figure 1, items 24,22,20,26,28,30 and paragraph 18 – *“To read or write data...with the head 24”*), wherein the controller

identifies defect locations on the media surface (paragraph 19 – *“To pack more data...in a buffer memory”*),

determines whether the location of an identified defect is within a predetermined window defined relative to another identified defect location on the media surface (paragraph 22 – *“To do this, the defect entries...grouped into one cluster”*), and

characterizes the defects in the window as a scratch, if the location is within the predetermined window (figure 2 and paragraph 22 – adjacent defects grouped together as cluster);

a memory coupled to the controller (figure 1, item 12 and paragraph 18 – *“To read or write data...with the head 24”*);

a scratch index table in the memory having a unique index entry for each identified defect location on the data storage media and an associated scratch index entry for each defect location (Table 2 and paragraph 24 – *“The pattern is represented...in Table 2 below”* – parameters are unique to this scratch); and

a scratch tracking table in the memory having, for each scratch index entry, a start index, and end index, and an end defect location for each identified scratch index (Table 2 and paragraph 24 – *“The pattern is represented...in Table 2 below”*).

With respect to claim 12, Yip discloses a buffer in the controller wherein the scratch tracking table and scratch index table are utilized in the buffer to identify defect locations (paragraph 8 – *“This second defect table will be stored in the buffer”* and paragraph 19 – *“The defect table may be stored on the disc, or when the disc drive is in operation, in a buffer memory”*).

With respect to claim 13, Yip wherein the controller generates a scratch tracking table having a start index and an end index for each scratch (Table 2 and paragraph 24 – *“The pattern is represented...in Table 2 below”*).

With respect to claim 14, Yip discloses wherein the controller pads each scratch in the scratch tracking table (paragraph 34 – *“An alternative embodiment...shown in Table 8”*).

With respect to claim 15, Yip discloses wherein the controller characterizes the defects by:

assigning a unique scratch index to the scratch (Table 2 – parameters are unique to this scratch), and

associating each defect within the window with the unique scratch index (Table 1 becomes Table 2 – each defect in Table 1 associated with scratch index represented by Table 2).

With respect to claim 21, Yip discloses a method, comprising characterizing defects in a medium as belonging to one or more scratches in the medium using a scratch index table (Table 2 and paragraph 25), wherein a scratch includes one or more defects within a predetermined window defined relative to another identified defect (paragraph 22).

With respect to claim 22, Yip discloses wherein the scratch index table associates each of the defects with one or more scratches in the medium (Table 2).

With respect to claim 23, Yip discloses wherein a scratch includes one or more defects within a predetermined window of another identified defect (paragraph 22).

With respect to claim 24, Yip discloses wherein the medium is a disc drive (figure 1).

With respect to claim 25, Yip discloses wherein the predetermined window criteria comprises a number of cylinders and a number of bytes (figure 2 and paragraph 21).

With respect to claim 26, Yip discloses wherein the start index and the end index are associated with a list of defects (Table 2 and paragraph 24, paragraph 25).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 7, 11, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent App. No. 2002/0191319 to Liew et al. (hereinafter Liew)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With respect to claim 1, Liew discloses a method of managing spatially related defects on a data storage media surface in a data storage device (abstract) comprising:

identifying defect locations on the media surface (paragraph 38);

determining whether the location of an identified defect is within a predetermined window defined relative to another identified defect location on the media surface (paragraph 43, paragraph 52);

if the location is within the predetermined window, characterizing the defects in the window as a scratch (paragraph 36 – “*A circumferential scratch...two contiguous tracks*”); and

generating a scratch tracking table having a start index and an end index for each scratch (paragraph 45 and Table 1).

With respect to claim 7, Liew discloses a method comprising:

identifying defect locations on a data storage media (paragraph 38);

tabulating the identified defects in a defect list (paragraph 38);

determining whether one or more defect locations lies within a predetermined window defined relative to another defect location (paragraph 43, paragraph 52);

assigning a unique scratch index to each defect location within the predetermined window (paragraph 45 and Table 1);

generating a scratch tracking table listing a start index for a first defect location in the window and an end index for a last defect location in the window for each scratch index assigned (paragraph 45 and Table 1); and

generating a scratch index table associating a scratch index with each defect location (Table 1).

With respect to claim 11, Liew discloses a system for managing scratches on a data storage media in a data storage device (abstract) comprising:

a controller adapted to control access by a host to and from the data storage media (figure 2, item 142), wherein the controller

identifies defect locations on the media surface (paragraph 38),

determines whether the location of an identified defect is within a predetermined window defined relative to another identified defect location on the media surface (paragraph 43, paragraph 52); and

characterizes the defects in the window as a scratch, if the location is within the predetermined window (paragraph 36 – “*A circumferential scratch...two contiguous tracks*”);

a memory coupled to the controller (figure 2, item 108);

a scratch index table in the memory having a unique index entry for each identified defect location on the data storage media and an associated scratch index entry for each defect location (figure 2, item 123); and

a scratch tracking table in the memory having, for each scratch index entry, a start index, and end index, and an end defect location for each identified scratch index (paragraph 45 and Table 1).

With respect to claim 21, Liew discloses a method, comprising characterizing defects in a medium as belonging to one or more scratches in the medium using a

scratch index table (paragraphs 38-39, paragraph 45 and Table 1), wherein a scratch includes one or more defects within a predetermined window defined relative to another identified defect (paragraph 36 – “A *circumferential scratch...two contiguous tracks*”).

Response to Arguments

5. Applicant's arguments filed 6 September 2007 have been fully considered but they are not persuasive.

Regarding independent claims 1, 7, 11, and 21, applicant argues Yip does not disclose determining whether the location of an identified defect is “within a predetermined window defined relative to another identified defect location.” More specifically, applicant states that zones in Yip are not defined relative to identified defects. However, the examiner respectfully disagrees. Yip teaches wherein tracks are grouped into zones depending on location within a medium. Defects within a zone are grouped into a cluster, or scratch (paragraph 22). In Yip, the zone is defined relative to a defect in that the defect only belongs to a certain zone. If a sector is defective, it may only form a cluster with other defective sectors in that zone. In other words, the zone, or window, that is observed to determine a scratch is defined relative to the defective sector because it depends on the location of the sector within the medium. Thus, the zone to be observed is defined in relation to the defect.

Applicant additionally asserts Yip does not disclose scratch indices as recited in claims 1, 7, and 11. More specifically, applicant argues that the scratch parameters in Yip are not equivalent to a unique scratch index. The examiner respectfully disagrees.

As discussed by applicant, the parameters of the scratch fully characterize the scratch. Since each scratch is unique among all determined scratches, the scratch parameters are also unique. According to Tables 1 and 2 of Yip, the defects and scratches are stored according to their parameters. Therefore, as the defect tables disclosed by Yip clearly show (Table 7, Table 10 showing multiple scratches) storage by parameters, each scratch can be retrieved based on its parameters, acting as an index to that particular scratch.

An additional rejection has been made in view of Liew, which discloses each and every limitation of the independent claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Guyton whose telephone number is (571) 272-3807. The examiner can normally be reached on M-F 8:00-4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/719,606
Art Unit: 2113

Page 13

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11/20/07


ROBERT BEAUSOLIEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100